Abstract

Light-diffracting microstructures are produced by the superimposition of at least two relief structures, wherein the first relief structure is produced mechanically while at least one second relief structure is a photomechanically generated diffraction structure.

A process for the production of light-diffracting microstructures which are additive superimpositions comprising a relief structure and at least one diffraction structure, is distinguished by the following steps:

a) producing a layer (2) of photoresist on a substrate (1) whose free surface has the relief structure,

b) producing an interference pattern with coherent light over the relief structure (5),

c) orienting the relief structure in relation to the interference pattern,

d) exposing the relief structure by means of the interference pattern,

e) developing the photoresist, wherein material of the photoresist which is changed by the exposure operation is removed and recesses, for example grooves, of the diffraction structure are produced on the relief structure, and

f) drying the photoresist.

(Figure 1)